

Report to Congress:
**Proposed Improvements to Early Warning
Reporting Data**



Prepared by the
U.S. Department of Transportation
National Highway Traffic Safety Administration
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This report is submitted in response to a provision in the Bipartisan Infrastructure Law requiring a study to evaluate early warning reporting data and to identify improvements that would enhance the use by the National Highway Traffic Safety Administration of early warning reporting data to enhance safety.

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Executive Summary

The Bipartisan Infrastructure Law, enacted in November 2021 as the Infrastructure Investment and Jobs Act, requires the National Highway Traffic Safety Administration (NHTSA), an operating administration within the Department of Transportation, to evaluate early warning reporting (EWR) data and to identify improvements to EWR data that would enhance safety and submit a report to Congress that details the results of the study, including any recommendations for legislative or regulatory action.

NHTSA studied EWR data and identified potential improvements by 1) reviewing the current EWR reporting requirements and related rulemaking and legislative histories; 2) studying prior reviews of the effectiveness and burden of current reporting requirements; and 3) evaluating changes to current reporting requirements that would optimize NHTSA's data analytics and risk-based pre-investigation processes. This work found that copies of non-dealer field reports, death and injury claims and notices, property damage claims, foreign recalls and manufacturer communications have been the most effective parts of current reporting, and that aggregate reporting of consumer complaints and field reports were the least effective while also presenting high reporting burdens.¹ Based on this, NHTSA focused its study on identifying methods for improving requirements that have been effective and considering deemphasizing reporting requirements with low effectiveness and high reporting burden.

Potential improvements were assessed using seven principles selected by NHTSA to guide the study. These principles emphasized changes that are expected to: 1) emphasize early

¹ The requirements to report manufacturer communications and foreign recalls are separate from NHTSA's EWR reporting requirements. *Compare* 49 U.S.C. § 30166(m); 49 CFR Part 579, Subpart C ("Reporting of Early Warning Information"), *with* 49 U.S.C. §§ 30166(f), (l); 49 CFR Part 579, Subparts A-B. However, for completeness, NHTSA also addressed those reporting requirements as a part of this study.

detection by reducing report lag;² 2) enhance data analytics; 3) provide input to NHTSA’s risk-based pre-investigative process; 4) provide for broad based coverage across and within reporting categories; 5) provide for rigorous review of high-severity incidents resulting in death, injury, collision, or fire; 6) modernize NHTSA data collection to keep pace with motor vehicle technology and the latest techniques in data analytics; and 7) reduce reporting burden by considering deemphasizing requirements that have provided little effectiveness.

Following this approach, NHTSA has identified 24 potential improvements affecting the scope, scale, formats and methods of EWR data collection related to field reports, claims or notices alleging death, injury or property damage, production information, and manufacturer communications that we believe will enhance the Agency’s ability to identify safety defects more quickly and effectively. The recommended improvements will emphasize enhancements to the scale, scope, and frequency of incident level data collection to identify potential safety defects as early as possible. This includes converting current data collection for dealer field reports and property damage claims to incident level reporting and limiting aggregate reporting to warranty claims.³ In addition, NHTSA has identified areas for continued study and improvement to continue to keep pace with changes in motor vehicle technologies and methods for identifying and investigating new issues as they are first observed. We anticipate proposing these recommended changes through the rulemaking process.

² Report lag is the number of days from the manufacturer’s receipt of data and its receipt and processing by NHTSA.

³ Note that integration of property damage claims and previously excluded dealer field reports into incident level reporting will retain the capability to perform statistical analyses of aggregated incident level data at any level required by circumstances. NHTSA notes that it was required by statute to mandate reporting of “aggregate statistical data on property damage.” 49 U.S.C. § 30166(m)(3)(A)(i). The reporting requirement may be periodic or “upon request.” *Id.* NHTSA will consider changes to the rule consistent with the statute.

Introduction

On November 15, 2021, the Bipartisan Infrastructure Law (the Act),⁴ was enacted to authorize funds for Federal-aid highways, highway safety programs, and transit programs, and for other purposes. Section 24216 of the Act, “Early Warning Reporting,” requires the Administrator of NHTSA to conduct a study to evaluate EWR data and to “identify improvements, if any, that would enhance the use by the National Highway Traffic Safety Administration of early warning reporting data to enhance safety.” Specifically, subsection (b) provides:

(b) STUDY AND REPORT. Not later than 18 months after the date of enactment of this Act, the Administrator of the National Highway Traffic Safety Administration shall—

(1) conduct a study—

(A) to evaluate the early warning reporting data submitted under section 30166(m) of title 49, United States Code (including regulations); and

(B) to identify improvements, if any, that would enhance the use by the National Highway Traffic Safety Administration of early warning reporting data to enhance safety; and

(2) submit to the Committee on the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Energy and Commerce of the House of Representatives a report describing the results of the study under paragraph (1), including any recommendations for regulatory or legislative action.

NHTSA has prepared this report in response to this directive.

⁴ 135 Stat. 429, Pub. L. No. 117-58 (Nov. 15, 2021).

Background

Current Requirements

Under the EWR requirements of the Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act (114 Stat. 1800, Pub. L. No. 106-414 (Nov. 1, 2000)), NHTSA was required to issue a rule establishing reporting requirements for manufacturers of motor vehicles and motor vehicle equipment to enhance the Agency's ability to carry out the provisions of Chapter 301 of Title 49, United States Code, which is commonly referred to as the National Traffic and Motor Vehicle Safety Act or the Safety Act. *See* 49 U.S.C. § 30166(m)(1), (2). Under one subsection of the early warning reporting provisions, NHTSA was to require reports of information in the manufacturers' possession to the extent that such information may assist in the identification of safety defects and which concern, inter alia, data on claims for deaths, serious injuries, and aggregate statistical data on property damage. 49 U.S.C. § 30166(m)(3)(A)(i); *see also* 49 U.S.C. § 30166(m)(3)(C). Another subsection, specifically 30166(m)(3)(B), authorized the Agency to require manufacturers to report information that may assist in the identification of safety defects. Specifically, section 30166(m)(3)(B) states: "As part of the final rule . . . the Secretary may, to the extent that such information may assist in the identification of defects related to motor vehicle safety in motor vehicles and motor vehicle equipment in the United States, require manufacturers of motor vehicles or motor vehicle equipment to report, periodically or upon request of the Secretary, such information as the Secretary may request." This subsection conveys substantial authority and discretion to the Agency. Most EWR data, with the exception of information on deaths, serious injuries, and property damage claims, is reported under regulations authorized by this provision.

The Agency's discretion is not unfettered. Pursuant to 49 U.S.C. § 30166(m)(4)(D),

NHTSA may not impose undue burdens upon manufacturers, taking into account the cost incurred by manufacturers to report EWR data and the Agency's ability to use the EWR data meaningfully to assist in the identification of safety defects.

The EWR regulation divides manufacturers of motor vehicles and motor vehicle equipment into two groups with different reporting responsibilities for reporting information. The first group consists of: (a) larger vehicle manufacturers that meet certain production thresholds that produce light vehicles, buses, emergency vehicles, medium-heavy vehicles, trailers, and/or motorcycles; (b) tire manufacturers that produce over a certain number of tires per tire line; and (c) all manufacturers of child restraints. Light vehicle, motorcycle, trailer, and medium-heavy vehicle manufacturers, except buses and emergency vehicles, that produced, imported, offered for sale, or sold 5,000 or more vehicles annually in the United States are required to provide comprehensive reports every calendar quarter. Emergency vehicle manufacturers must report if they produced, imported, offered for sale, or sold 500 or more vehicles annually and bus manufacturers must report if they produced, imported or offered for sale, or sold 100 or more buses annually in the United States. Passenger car tire, light truck tire, and motorcycle tire manufacturers that produced, imported, offered for sale, or sold 15,000 or more tires per tire line are also required to provide comprehensive quarterly reports. This first group must provide comprehensive reports every calendar quarter. 49 CFR § 579.21–579.26. The second group consists of all other manufacturers of motor vehicles and motor vehicle equipment (i.e., vehicle manufacturers that produce, import, or sell in the United States fewer than 5,000 light vehicles, medium-heavy vehicles (excluding emergency vehicles and buses), motorcycles, or trailers annually; vehicle manufacturers that produce, import, or sell in the United States fewer than 500 emergency vehicles annually; vehicle manufacturers that produce,

import, or sell in the United States fewer than 100 buses annually; manufacturers of original motor vehicle equipment; and manufacturers of replacement motor vehicle equipment other than child restraint systems and tires). The second group has limited reporting responsibility.⁵ 49 CFR § 579.27.

Light vehicle, bus, emergency vehicle and medium-heavy vehicle manufacturers must provide information relating to:

- Production (the cumulative total of vehicles or items of equipment manufactured in the year).
- Incidents involving death or injury based on claims and notices received by the manufacturer.
- Claims relating to property damage received by the manufacturer.
- Consumer complaints (a communication by a consumer to the manufacturer that expresses dissatisfaction with the manufacturer's product or performance of its product or an alleged defect).
- Warranty claims paid by the manufacturer pursuant to a warranty program (in the tire industry these are warranty adjustment claims).
- Field reports (a report prepared by an employee or representative of the manufacturer concerning the failure, malfunction, lack of durability or other performance problem of a motor vehicle or item of motor vehicle equipment).

For property damage claims, warranty claims, consumer complaints and field reports, light vehicle, bus, emergency vehicle and medium-heavy vehicle manufacturers submit

⁵ In contrast to the comprehensive quarterly reports provided by manufacturers in the first group, the second group of manufacturers does not have to provide quarterly reports. These manufacturers only submit information about a fatal incident when they receive a claim or notice of a death.

information in the form of numerical tallies, by specified system and component (defined in 49 CFR § 579.4). These data are referred to as aggregate data. Reports on deaths or injuries contain specified data elements. In addition, light vehicle, bus, emergency vehicle, and medium-heavy vehicle manufacturers are required to submit copies of field reports, except for dealer and product evaluation reports.

On a quarterly basis, vehicle and equipment manufacturers meeting the production thresholds discussed above must provide comprehensive reports for each make and model for the calendar year of the report and nine previous model years for vehicles and four years for equipment. The vehicle systems or components on which manufacturers provide information vary depending upon the type of vehicle or equipment manufactured. Light vehicle manufacturers must provide reports on 25 vehicle components or systems: steering, suspension, foundation brake, automatic brake controls, parking brake, engine and engine cooling system, fuel system, power train, electrical system, exterior lighting, visibility, air bags, seat belts, structure, latch, vehicle speed control, tires, wheels, seats, fire, rollover, electronic stability control, forward collision avoidance, lane departure prevention, and backover prevention. Bus, emergency vehicle and medium-heavy vehicle manufacturers must provide reports on an additional four (4) vehicle components or systems: service brake air, fuel system diesel, fuel system other, and trailer hitch.⁶

EWR Rule History

On July 10, 2002, NHTSA published its original EWR regulations requiring that motor vehicle and equipment manufacturers provide certain early warning data. 49 CFR Part 579, Subpart C; *see* 67 Fed. Reg. 45822. That EWR rule required quarterly reporting of early warning

⁶ Manufacturers of motorcycles, trailers, child restraints, and tires report on varying systems and components. *See* 49 CFR §§ 579.23–26.

information: production information; information on incidents involving death or injury; aggregate data on property damage claims, consumer complaints, warranty claims, and field reports; and copies of field reports (other than dealer reports and product evaluation reports) involving specified vehicle components, a fire, or a rollover.

The Agency has amended the EWR rule a number of times since its first publication. Three amendments are most relevant to this study. On May 29, 2007, NHTSA made three changes to the EWR rule. 72 Fed. Reg. 29435. First, the definition of “fire” was amended to capture fire-related events more accurately. 72 Fed. Reg. 29443. Second, the Agency eliminated the requirement to produce hard copies of a subset of field reports known as “product evaluation reports.” *Id.* Last, the Agency limited the time that manufacturers must update a missing vehicle identification number (VIN)/tire identification number (TIN) information or a component in a death or injury incident to a period of no more than one year after NHTSA receives the initial report. 72 Fed. Reg. 29444.

On September 17, 2009, NHTSA issued a final rule that modified the reporting threshold for light vehicle, bus, medium-heavy vehicle (excluding emergency vehicles), motorcycle and trailer manufacturers’ quarterly EWR reports. *See* 74 Fed. Reg. 47740, 47757–58 (Sept. 17, 2009). This rule further required manufacturers to submit EWR reports with consistent product names from quarter to quarter and amended Part 573 Defect and Noncompliance Responsibility and Reports to require tire manufacturers to provide tire identification number ranges for recalled tires. 74 Fed. Reg. 47757–58. The final rule also stated that manufacturers must provide the country of origin for a recalled component. Last, the rule amended the definition of “other safety campaign” to be consistent with the definition of “customer satisfaction campaign.”

On August 20, 2013, NHTSA issued a final rule that added new product dimensions for

light vehicle manufacturers and added new component categories for light vehicles, buses, emergency vehicles, and medium-heavy vehicle manufacturers. *See* 78 Fed. Reg. 51382 (Aug. 20, 2013). The amendments to the EWR rule require light vehicle manufacturers to specify the vehicle type and the fuel and/or propulsion system type in their reports and add new component categories of stability control systems for light vehicles, buses, emergency vehicles, and medium-heavy vehicle manufacturers, and forward collision avoidance, lane departure prevention, and backover prevention for light vehicle manufacturers. These amendments also required light vehicle manufacturers to segregate its service brake EWR data into two new discrete component categories. In addition, NHTSA added a requirement for motor vehicle manufacturers to report their annual list of substantially similar vehicles via the Internet.

EWR Improvement Reviews

In June 2015, the Secretary of Transportation released two NHTSA reports, “*NHTSA’s Path Forward*” and “*Workforce Assessment: The Future of NHTSA’s Defects Investigations*,” and announced the formation of a three-person Safety Systems Team (SST) of outside experts.⁷ The reports outlined changes to the pre-investigation defects identification and review processes the Agency adopted in the wake of the General Motors (GM) ignition switch recall, including the collection and review of EWR data. The SST advised NHTSA on implementation of changes contained in the reports, including the development of the risk-based process for making decisions on opening defect investigations (see *NHTSA’s Risk-Based Process*). The “*Path Forward*” report emphasized the importance of complete and accurate EWR data, with emphasis on rigorous reporting of data related to severe crashes and collection of “embedded vehicle

⁷ DOT, *U.S. Transportation Secretary Foxx Announces Formation of New NHTSA Safety Teams*, June 2015. [U.S. Transportation Secretary Foxx Announces Formation of New NHTSA Safety Teams | US Department of Transportation](#).

data.”⁸

In January 2016, NHTSA and 18 vehicle manufacturers adopted a set of *Proactive Safety Principles*, that included a commitment to work together to enhance the analysis of EWR data by continuing the incorporation of data analytics methods to better identify potential risks earlier.⁹

The *Proactive Safety Principles* identified two initiatives for implementing this objective:

1. Examine whether existing advanced analytical tools and procedures can be used to proactively analyze EWR data to assist in the analysis of potential safety-related issues.
2. Participate in a NHTSA/Industry working group to analyze the quality and use of EWR as it currently exists and explore potential changes to existing data elements and reporting processes that could enhance the usefulness of EWR data in identifying potential safety issues for further investigation.

In October 2016, Fiat Chrysler Automobiles (FCA), together with Honda and the Insurance Institute for Highway Safety (IIHS), hosted the *Advancing Safety Through Data Conference*, which included the sharing of best practices in data analytics for the early detection of issues before they become safety defects. The best practices focused on data analytic methods that use machine learning and rules-based modeling to assign safety event categories to event records drawn from multiple, large data sets using established hazard taxonomies.

From the 2016 *Advancing Safety Through Data Conference* through 2022, the Office of Defects Investigation (ODI) continued to meet with industry groups, individual manufacturers in each of the reporting categories, and other highway safety stakeholders to review ideas for

⁸ DOT, *NHTSA's Path Forward*, Washington, D.C., June 2015.

⁹ DOT, *Proactive Safety Principles*, Washington, D.C., Jan. 15, 2016. <https://www.transportation.gov/sites/dot.gov/files/docs/ProactiveSafetyPrinciples2016.pdf>.

improving EWR data, including burdens associated with current reporting, improvements in the reporting of production information, field report metadata,¹⁰ and processes for death and injury reporting and follow-up queries. From these discussions, the Agency has determined that incident level reporting is the most likely to reveal early signals of potential safety defects and that aggregate data provides the least benefit while significantly contributing to reporting burden.

Data Analytics

Data analytics is a broad field of data science that has been defined as “the pursuit of extracting meaning from raw data using specialized computer systems”¹¹ and “the process of analyzing raw data in order to draw out meaningful, actionable insights.”¹² For purposes of this report, data analytics refers to processes developed to analyze large volumes of data from multiple sources (e.g., warranty claims, consumer complaints, field reports, legal, and subrogation claims) to assist in the identification of potential safety defects in motor vehicles and equipment. These processes generally include a combination of automated and manual data analysis tools. The automated classification may use machine learning, artificial intelligence, and natural language processing methods to segregate and classify potentially safety-related incidents from incidents with no safety indicators in data sets that are too large for manual review. The manual review tools allow the reviewer to design a wide array of queries that cover the full data sets to ensure that all records related to the issue under review are identified and properly dispositioned.

Automated classification methodologies that have been adopted by automobile companies have generally involved several common steps, starting with the development of a

¹⁰ Metadata refers to descriptions of the data elements contained in each manufacturer’s field report databases.

¹¹ <https://www.informatica.com/services-and-training/glossary-of-terms/data-analytics-definition.html>

¹² <https://careerfoundry.com/en/blog/data-analytics/what-is-data-analytics/>

hierarchical hazard taxonomy of systems, components, and associated failure modes and effects that may result in safety hazards. The classifier labels records according to the hazard taxonomy or with labels indicating that no safety hazard could be assigned. Best practices include using multiple classifier strategies to ensure earliest detection of safety defect signals and development of quality control metrics to continuously measure and improve classifier performance. ODI continues to meet with companies who have experience with long term use of automatic classifier strategies or have recently developed comprehensive data analytic processes so that we can benefit from lessons learned.

NHTSA's Risk-Based Process

ODI follows a risk-based process for identifying potential safety defects that may warrant investigation.¹³ The process takes input from ODI's review of consumer complaints, EWR field reports, EWR death and injury incidents, and other sources (e.g., Special Crash Investigation incidents) to identify, prioritize, and recommend investigations of potential safety defects in motor vehicles and equipment. ODI staff analyze each record to identify potential safety defects in motor vehicles or equipment.

Each incident is assigned to a risk matrix based upon the safety hazard and classified by component and severity of the safety hazard. The review then involves searches of complaint, field report, and death and injury data for related incidents and assesses the scope (affected products), frequency (related incidents per affected product), and trend (change in failure frequency over time) of the subject condition.¹⁴ The severity and frequency levels produce a risk matrix score that is used to prioritize the issue and evaluate when investigation is warranted (see

¹³ National Highway Traffic Safety Administration. (2020, November). *Risk-based processes for safety defect analysis and management of recalls* (Report No. DOT HS 812 984). https://www.nhtsa.gov/sites/nhtsa.gov/files/documents/14895_odi_defectsrecallpubdoc_110520-v6a-tag.pdf.

¹⁴ A condition is a specific component or system fault and failure mode.

Figure 1).

Severity Level	Severity Factors		Frequency Level				
	Detectability of Condition	Consequence of Failure	1	2	3	4	5
SL-5	None/poor detectability	Severe or fatal injury	Y	R	R	R	R
SL-4		Moderate injury	G	Y	R	R	R
SL-3	Good/reasonable detectability	Severe or fatal injury	G	G	Y	R	R
SL-2		Moderate injury	G	G	G	Y	R
SL-1	Not considered	Minor Injury	G	G	G	G	Y

Notes:

Detectability: Presence or lack of warning lights, messaging and notifications; audible warnings and abnormal noises; vehicle handling and/or performance anomalies, the presence of which would be reasonably expected to be noticeable by a typical driver or occupant.

Consequence: Severe injury means AIS 3 and above injuries, including death, that typically require significant medical treatment and/or hospitalization, moderate means AIS 2 type injuries, and minor means AIS 1 or any injury allegation such as minor cuts or soft tissue.

Incidents: Appear to involve a common fault condition and consequence.

Common Fault Condition: Same/similar part, failure mode, and conditions leading to failure.

Common Fault Consequence: Same/similar failure mode and effects caused by failure.

Figure 1. Example of Generic Risk Matrix.

The proposed EWR improvements will aid reviewers in assessing scope, frequency, trend, and safety hazards associated with conditions identified during the pre-investigative process. This includes the ability to calculate frequencies by additional vehicle attributes, such as engine, drivetrain, and assembly plant, as well as options to query on multiple structured and unstructured data fields to assist in identifying related incidents and assigning the most serious safety hazard that may result from the condition.

Guiding Principles

NHTSA’s current study of EWR improvements was guided by the seven principles listed below. We assessed the limitations of each of the current reporting requirements in meeting one or more of these objectives and identified changes to address each limitation.

1. **Early detection** – Safety-related incidents should be reported and reviewed as early as possible without undue burden to manufacturers.
2. **Enhance data analytics** – The changes should emphasize incident level data. The incident level data should include all structured and unstructured data elements that are both generally available and useful for optimization of automated data analytics and manual search capabilities for investigators.
3. **Enhance risk-based process** – The changes should enhance ODI’s risk-based process by increasing the scale and scope of records that are reviewed to look for potential safety defects and giving the investigators the data needed to make accurate and timely assessments of problem scope, frequency, trends, and safety hazards.
4. **Broad based coverage** – The changes to data sources and reporting scope should cover known risks and statutes and level data collection across manufacturers for each reporting category to the extent possible.
5. **Rigorous review of severe incidents** – The changes should eliminate impediments to the timely collection and review of all pertinent data related to death, injury and property damage claims (“severe incident reviews”). Severe incident reviews should not be impeded by missing or incomplete reports and related evidence (e.g., event data, photographs, videos) that are needed to independently assess whether vehicle or equipment factors may have caused or contributed to failures related to crash avoidance or crash worthiness.
6. **Modernize data collection** – The changes should ensure that reporting requirements adequately cover the latest motor vehicle technologies (e.g., over-the-air update capabilities, passive or active collection of vehicle diagnostic data via telematics), align

reporting requirements with the latest capabilities in data analytics, and provisions for continuous study and improvement.

7. **Reduce burden** – Reduce reporting burden where possible by considering deemphasizing requirements with high reporting burden and little utility.

Proposed Improvements

General (GN)

GN1 - Revise vehicle and equipment reporting age requirements

Limitation of current process – On November 1, 2000, the TREAD Act was enacted by Congress.¹⁵ The TREAD Act included amendments to 49 U.S.C. § 30120(g)(1) that extended the ages that free recall remedies are required from 8 years to 10 years for vehicles and equipment and from 3 years to 5 years for tires. When the EWR rule was published in 2002, it established reporting requirements of 10 years for vehicles and 5 years for tires, child restraints and equipment.

Since the EWR rule was published, there have been an increasing number of vehicle and equipment recalls involving products more than 10 years old, including multiple air bag inflator recalls over the past 10 years. On December 4, 2015, the Fixing America’s Surface Transportation (FAST) Act further amended 49 U.S.C. § 30120(g)(1) to extend the ages that free recall remedies are required for vehicles and equipment from 10 years to 15 years.

Proposed improvement – Extend the reporting requirements for vehicles and equipment described in 49 CFR § 579.21, § 579.22, § 579.23, § 579.24, § 579.26 and § 579.27 from 10 to 15 years for vehicles, from 5 to 15 years for equipment, and from 5 to 10 years for child

¹⁵ Transportation Recall Enhancement, Accountability, and Documentation (TREAD) Act, 114 Stat. 1800, Pub. L. No. 106-414 (Nov. 1, 2000).

restraints, while keeping the 5-year requirement for tires.

GN2 – Safety evaluations

Limitation of current process – The current regulation does not include any requirements for manufacturers to report information about safety-related issues that are being evaluated by a company for possible safety defect determination decision or other field action. Even with the improvements proposed by NHTSA in this report, based on aggregate counts for warranty claims, field reports, consumer complaints, and vehicle owner questionnaires (VOQs) received by NHTSA, the Agency’s data analytics for incidents, that are not related to claims or notices of death, injury or property damage, will receive input from less than 10 percent of the combined data sources available to vehicle and equipment manufacturers that may provide the earliest or strongest signals of an emerging safety defect trend.¹⁶

Proposed improvement – Add a requirement for certain vehicle and equipment manufacturers to report information about internal safety evaluations every two months using a Safety Evaluations List (SEL) reporting schema to be defined by the Agency (*see* Appendix D).

GN3 – Minimal specificity requirements for vehicles

Limitation of current process – The current regulation defines minimal specificity for vehicles as “the make, model and model year.” *See* 49 CFR § 579.4 *Terminology*. This reduces the integrity of the risk-based process by disrupting the connection between incident data and production data (see proposed change *PII - Require production counts by VIN descriptor*).

Proposed improvement – Revise minimal specificity for vehicles to be defined as “the vehicle identification number.”

¹⁶ Aggregate counts for field reports, property damage claims and VOQs in 2021 reporting quarters represented approximately 9.8 percent of total aggregate counts for consumer complaints, field reports, property damage claims, warranty claims and VOQs.

Death or injury incidents (DI)

DI1 – Add property damage claims to the reporting requirements for incidents involving death or injury

Limitation of current process – The current regulation requires manufacturers to report information about incidents involving death or injury that are identified in claims or notices alleging that one or more defects may have caused the death or injury. It does not include property damage claims, such as non-injury collisions and fire loss claims.

Proposed improvement – Extend the requirements for reporting information about incidents involving death or injury to incidents involving claims of property damage. The change would broaden NHTSA’s review of incidents with a safety-related consequence to include claims or notices related to non-injury collisions and fire loss claims.

DI2 – New schema for death, injury and property damage claim data

Limitation of current process – The current regulation requires manufacturers to report information related to incidents involving death or injury claims using a schema that includes the make, model, model year, the type, the fuel and/or propulsion system type, and VIN of the vehicle, the incident date, the number of deaths, the number of injuries for incidents occurring in the United States, the State or foreign country where the incident occurred, each system or component of the vehicle that allegedly contributed to the incident, and whether the incident involved a fire or rollover. *See* 49 CFR § 579.21(b)(1) and (2). The schema does not include information that could be used to identify or help assess the defect condition(s) alleged in the claim or notice.

Proposed improvement – Amend the reporting schema to include additional data elements related to the claim or notice, including type of claim or notice (e.g., lawsuit,

subrogation claim, customer contact), type of incident (e.g., crash, fire, non-crash injury, or death), injury severity, availability of supporting evidence (e.g., reports, photographs, videos, or event data), status of manufacturer-initiated investigation, and other structured and unstructured data fields that would assist NHTSA's evaluation of the claims. NHTSA will also develop criteria for conditions that require submitting amended responses (e.g., receipt of new evidence).

DI3 – Add requirements for providing copies of all field reports and event data related to incidents involving death, injury or property damage claims

Limitation of current process – NHTSA's review of claims or notices alleging death or injury incidents involves a two-step process. The manufacturers first report information about such claims each quarter using a prescribed schema, as described in DI2, "*New schema for death, injury and property damage claim data.*" NHTSA then sends inquiry letters to the manufacturers requesting additional information for incidents selected by NHTSA. Incident selection is based on several factors, including: 1) severity (all fatal incidents are selected); 2) whether the incident is related to an existing NHTSA complaint; and 3) component code. NHTSA's inquiry letters request copies of the claims or notices, police reports, and event data recorder (EDR) reports related to the incident, as well as the manufacturer's assessment of the defect allegations and incident causal factors. This process is limited by the incomplete sampling and review of injury incidents¹⁷ and the potential for incomplete responses from the manufacturer if the inquiry is received before an investigation has been initiated or completed. These limitations will likely be exacerbated by other proposals in this report that increase reporting volumes and reporting frequencies.¹⁸

¹⁷ In the four reporting quarters for 2021, NHTSA included 100 percent of fatal incidents and 18 percent of non-fatal injury incidents in inquiry letters.

¹⁸ Volumes are expected to more than double from the addition of property damage claims and the increases to the scope of vehicle and equipment reporting ages.

Proposed improvement – Add requirements for vehicle and equipment manufacturers to submit copies of all field reports and EDR reports related to investigations of crashes, fires, injuries, or deaths.¹⁹ Note that this requirement does not change the requirements described in improvement FR1, “*Establish schema for electronic reporting of field report data.*”

DI4 – Reporting frequency for death, injury & property damage claims

Limitation of current process – Death and injury information are submitted quarterly under the current regulation.

Proposed improvement – Require manufacturers to submit death, injury, and property damage claim data described in improvements DI1 through DI3 monthly.

DI5 – Injury severity classification

Limitation of current process – The current regulation does not define injuries that must be reported or include a field to help distinguish between serious injuries requiring medical attention and less serious injuries that do not require treatment. This does not allow the reviewer to adequately prioritize records for deeper reviews.

Proposed improvement – Develop injury reporting thresholds and include a field to indicate injury severity in future reporting requirements.

Field reports (FR)

FR1 – Establish schema for electronic reporting of field report data

Limitation of current process - The current process requires manufacturers to provide copies of reportable field reports each quarter. This results in an inefficient process that requires manual review, coding and dispositioning of every field report. The manual review process

¹⁹ EDR reports provide essential information for assessing many types of safety defect allegations, including airbag non-deployments, inadvertent airbag deployment, other airbag deployment anomalies, allegations of sudden unintended acceleration, and other allegations of vehicle control system performance anomalies.

limits the amount, quality, and timeliness of structured (e.g., VIN, dates, crash, fire, injury, and death coding) and unstructured (e.g., narrative fields related to problem concern, cause, and correction) data available for the data analytics tools to process when searching for potentially safety-related defect conditions.

Proposed improvement – Change to electronic reporting of field report data using a schema developed by NHTSA. This process transmits data from relevant manufacturer databases directly to NHTSA’s field report database via the EWR portal, improving the amount, quality and timeliness of field report data available for analysis.

FR2 – Reportable field reports

Limitation of current process – The current regulation excludes dealer field reports²⁰ from the requirements for providing copies of field reports. This results in gaps in reporting from companies with business models that do not produce reportable field reports.

Proposed improvement – Revise definition of field report to clarify scope of reporting requirements for all reporting categories. Broaden requirements to collect fullest set of data that may contain information about potential safety defects, including the addition of reports from dealers and authorized service centers.²¹

FR3 – Field reports covered by attorney-client privilege or work product exclusion

Limitation of current process – The current regulation excludes documents covered by the attorney-client privilege or the work product exclusion from the requirements for submitting copies of field reports contained in 49 CFR § 579.21-25.

²⁰ “Dealer field report” is defined as “a field report from a dealer or authorized service facility of a manufacturer of motor vehicles or motor vehicle equipment.” See 49 CFR § 579.4.

²¹ Product evaluation reports would continue to be excluded from this requirement.

Field report means a communication in writing, including communications in electronic form, from an employee or representative of a manufacturer of motor vehicles or motor vehicle equipment, a dealer or authorized service facility of such manufacturer, or an entity known to the manufacturer as owning or operating a fleet, to the manufacturer regarding the failure, malfunction, lack of durability, or other performance problem of a motor vehicle or motor vehicle equipment, or any part thereof, produced for sale by that manufacturer and transported beyond the direct control of the manufacturer, regardless of whether verified or assessed to be lacking in merit, but does not include any document covered by the attorney-client privilege or the work product exclusion.²²

Proposed improvement – Require manufacturers to submit all data specified by the reporting schema that are not covered by attorney-client privilege or work product exclusion and provide non-privileged summaries of information that are covered by such claims for each element of data in the reporting schema.²³ The reporting schema will also include data elements to identify records that are covered by legal claims of privilege.

FR4 – Reporting frequency for field reports

Limitation of current process – Copies of field reports are submitted quarterly under the current regulation. This may delay the identification of incidents potentially related to safety defects by up to 90 days.

Proposed improvement – Require manufacturers to submit field report data monthly using the reporting schema.

²² See 49 CFR § 579.4 Terminology.

²³ If such documents are included in a request for documents and related attachments, redacted versions of each document would be required.

Production information (PI)

PI1 – Require production counts by VIN descriptor

Limitation of current process – The current regulation requires manufacturers to submit production information using a schema established for each reporting category. For example, light vehicle production information is reported by model year, make, model, vehicle type, and fuel/propulsion system according to changes adopted in the 2013 rulemaking. The product naming in these reporting schemas do not always align with product naming in the failure databases (e.g., consumer complaints and field reports), which complicates efforts to calculate failure frequencies for some populations when performing risk matrix scoring.

Proposed improvement – Add a field for Vehicle Descriptor VIN²⁴ to the production information schemas for certain reporting categories. This provides the reviewer with accurate production information for all failure records with valid VIN information. In addition, the reviewer can filter production by additional attributes, such as engine, drivetrain, and assembly plant when relevant to the analysis.

PI2 – Revise reporting schema for bus, medium, heavy, motorcycle, and trailer products to include electrical propulsion

Limitation of current process – The current regulation schemas for identifying electric vehicles in production information and warranty aggregate is limited to light vehicles.

Proposed improvement – Change the schemas for reporting production and warranty aggregate for buses, emergency vehicles, medium-heavy vehicles, motorcycles, and trailers to include identification of fuel/propulsion system and to include electrical.

²⁴ Vehicle Descriptor VIN refers to the characters in the VIN that describe the product. For light vehicles this generally involves characters 1 through 9 and 11 (character 10 is the Check Digit).

PI3 – Tire reporting scope

Limitation of current process – The current reporting requirements for tires, 49 CFR § 579.26 *Reporting requirements for manufacturers of tires*, exclude commercial tires used on buses, emergency vehicles, and medium-heavy vehicles from the requirements for production information and aggregate data. This limits ODI’s ability to monitor failure trends in those products, including failures of steer axle tires that may result in loss-of-control crashes in tractor-trailer products.

Proposed improvement – Add commercial tires to the reporting requirements of 49 CFR § 579.26.²⁵

PI4 – Trailer reporting schema

Limitation of current process – The current reporting requirements for trailers, 49 CFR § 579.24 *Reporting requirements for manufacturers of 5,000 or more trailers annually*, include “type of service brake system” in the reporting schema. The submitter must select from two brake types (hydraulic and air):

For each model that is manufactured and available with more than one type of service brake system (i.e., hydraulic and air), the information required by this subsection shall be reported by each of the two brake types (i.e., “H” for hydraulic, “A” for air). If the service brake system in a trailer is not readily characterized as either hydraulic or air, the trailer shall be considered to have hydraulic service brakes. If a model has no brake system, it shall be reported as “N,” for none.

Proposed improvement – Add “electric” to the types of service brake systems available to

²⁵ Retreaded tires would be excluded from this requirement.

trailer manufacturers when reporting production information under the requirements of 49 CFR § 579.24.

Manufacturer communications (MC)

MC1 – Require reporting of Manufacturer Communications via the portal

Limitation of current process – The current regulation continues to allow manufacturers to meet the requirements of 49 CFR § 579.5 using email or the Manufacturer Communications reporting portal. This reduces traceability in reporting and increases the potential for error by the reporter and NHTSA reviewer.

Proposed improvement – Require all manufacturer communications to be reported via the Manufacturer Communications portal.

MC2 – Revise Manufacturer Communication reporting schema to show type of communication

Limitation of current process –The schema used for reporting manufacturer communications in the current regulation does not categorize communications by type. This prevents the user and investigator from searching for or analyzing manufacturer communications by type, such as communications related to non-safety campaigns (e.g., service campaigns, warranty extensions), over-the-air updates, and service bulletins.

Proposed improvement – Add a field to the schema for reporting manufacturer communications to indicate the type of communication using a list of defined types (e.g., communications related to service campaigns or warranty extensions, specific types of over-the-air updates, service bulletins for repairing specific defect conditions, and other types of communications). The proposed change will allow external and internal users to filter manufacturer communications by type to find communications of interest more readily. The

change will also provide analysts greater capability to track trends in communications by type.

MC3 – Specify requirements for reporting over-the-air updates

Limitation of current process – The current regulation for reporting manufacturer communications, 49 CFR § 579.5, was written in 2002 and last amended in 2007. Requirements for reporting manufacturer communications are described in 49 CFR § 579.5(a):

Each manufacturer shall furnish to NHTSA's Early Warning Division (NVS-217) a copy of all notices, bulletins, and other communications (including those transmitted by computer, telefax, or other electronic means and including warranty and policy extension communiqués and product improvement bulletins) other than those required to be submitted pursuant to § 573.6(c)(10) of this chapter, sent to more than one manufacturer, distributor, dealer, lessor, lessee, owner, or purchaser, in the United States, regarding any defect in its vehicles or items of equipment (including any failure or malfunction beyond normal deterioration in use, or any failure of performance, or any flaw or unintended deviation from design specifications), whether or not such defect is safety-related.

The automotive market is in a period of rapid growth and evolution in over-the-air (OTA) update capabilities, with most of the change occurring over the past five years. Updates to software or firmware performed by OTA are primarily done to enhance performance or fix software bugs. Affected systems can be divided into infotainment (e.g., navigation, audio, user interfaces, streaming services and apps) and drive control/safety systems (e.g., powertrain, chassis systems, advanced driver assistance systems (ADAS), restraint systems, and battery management systems in electric vehicles). While some manufacturers have recently begun reporting information regarding OTA updates designed to fix bugs as manufacturer

communications, OTA reporting requirements under 579.5 have not been interpreted consistently by all manufacturers. The current regulation governing reporting of manufacturer communications pre-dates the growth in OTA updates and does not include specific requirements for reporting information about the updates.

Proposed improvement – Add requirements to 49 CFR § 579.5 specifying the requirements for what OTA updates must be reported and how they must be reported if the update is not described in a technical service bulletin issued by the manufacturer.

MC4 – Reporting frequency

Limitation of current process – Copies of manufacturer communications are required to be submitted monthly under the current regulation.

Proposed improvement – Require manufacturers to submit manufacturer communications bi-weekly using the new reporting schema.

Aggregate data (AG)

AG1 – Revise the definition of reportable warranty claims to exclude claims for completion of service campaigns

Limitation of current process – The current regulation requires reporting of warranty claims paid for completing service campaigns. Since service campaigns are designed to apply a proactive “remedy” to vehicles irrespective of failure symptom, the resulting claims are indicators of campaign completion rates and not failure rates. The claim rates are intended to be high, as all affected owners generally receive notification letters with instructions for receiving the campaign procedure, including related age or time limits. Campaign claims frequently trigger NHTSA’s time series outlier indicator. Since the outlier test is meant to detect unusual failure trends, including the campaign completion data may obscure detection of failure trends in certain

products.

Proposed improvement – Change the definition of reportable warranty claim to exclude claims paid for completion of service campaigns.²⁶

AG2 – Revise component codes to cover electric vehicle energy storage systems and address concerns with current components that are too broad

Limitation of current process – The component codes defined in the current regulation do not cover energy storage systems for electrical vehicles (e.g., battery packs, battery management systems, and associated charging systems). In addition, some of the current component codes are very broad in scope, reducing the utility of the component in detecting outliers for specific safety-related failure conditions.

Proposed improvement – Add component codes to cover energy storage systems for electric vehicles, and other alternative propulsions systems. Examine additional changes to component codes that may improve the usefulness of the current components that are broad (e.g., Electrical, Engine, and Engine Cooling).

AG3 – Tire warranty claims

Limitation of current process – The current regulation does not distinguish between tire warranty claims for goodwill and for warrantable conditions, reducing the ability to detect trends resulting from tire defect conditions. Goodwill claims include customer concerns related to ride, handling, and cosmetic tire conditions.

Proposed improvement – Change the definition of reportable tire warranty claim to require reporting of warrantable claims and exclude goodwill claims.

²⁶ This exclusion does not apply to claims paid for warranty extensions, which are limited to products exhibiting specified failure symptoms.

AG4 – Tire reporting scope

Limitation of current process – The current reporting requirements for tires, 49 CFR § 579.26 *Reporting requirements for manufacturers of tires*, exclude commercial tires used on buses, emergency vehicles, and medium-heavy vehicles from the requirements for production information and aggregate data. This limits ODI’s ability to monitor failure trends in those products, including failures of steer axle tires that may result in loss-of-control crashes in tractor-trailer products.

Proposed improvement – Add commercial tires to the reporting requirements of 49 CFR § 579.26.²⁷

Future Work

The Agency recommends combining the recommended improvements with several areas of continued study for future enhancements to the scope, scale, content, and modernization of NHTSA’s EWR data collection. Subjects for further study and continuous improvement efforts would include:

- Pursuing government and industry efforts to develop standardized hazard taxonomies for each reporting category.
- Improving the designated component codes for each reporting category, including the possibility of replacing or supplementing current component codes with reporting by hazard taxonomies.
- Enhancing the collection of vehicle production information, including a schema for collecting production information at the individual VIN level. For example, the production data elements may include model year, make, model, build date, technology package,

²⁷ Retreaded tires would be excluded from this requirement.

telematic capability, and battery package (for electric vehicles).²⁸

- Continuing the evaluation of new data sources to add to the proposed data collection requirements through existing or new data schema. These evaluations may be guided by studies of safety recall and SEL data sets to identify data sources that 1) most often provide the first signal of an emerging safety defect trend, and 2) are most often used as secondary or supplemental data sources to assess the full scope and frequency of a problem once it has been identified.

- Continuing to study improvements in the collection and analysis of warranty data. Potential improvements include developing a reporting schema for receiving incident level claim data, and limiting warranty claim reporting to designated “safety-critical” components or subsystems (this may be used for aggregate reporting or to achieve a scaled down set of data for reporting claim data).

- Keeping pace with new technologies that are changing the methods by which manufacturers can passively or actively collect data from vehicles remotely to investigate conditions of vehicle systems in designated populations of vehicles (e.g., health checks or prognostics). In March 2016, the AAA Foundation for Traffic Safety examined the possibilities of integrating data from connected vehicles to ODI’s defect investigation process. The study concluded that, while it was not feasible for data from connected vehicles to be efficiently used in the near term, the area was “extremely promising,” and the technology was “advancing rapidly.”²⁹ Based on recent one-on-one discussions with

²⁸ Specific information about technology and battery “packages” could be reported annually using naming/codes used by each manufacturer and reporting templates developed by the Agency.

²⁹ A Murtha, S., Bagdade, J., Freitas, M. & Hinch, J. (2016). Telematics, Safety Defects, and Connected Vehicles (Technical Report). Washington, D.C.: AAA Foundation for Traffic Safety. <https://aaafoundation.org/telematics-safety-defects-connected-vehicles/>

manufacturers, the Agency believes this area remains promising but that it is premature to include in current improvements due to uneven market penetration and lack of standardized data collection processes.

- Keeping pace with enhanced data collection methods to aid in the assessments of various non-collision “event” types.
- Obtaining annual access, via online accounts or other means, to service manual and service parts data sets that can be cross-referenced to improve the effectiveness of the data analytics developed by the Agency.

Conclusion

The Bipartisan Infrastructure Law, enacted in November 2021, requires NHTSA to evaluate EWR data, to identify improvements to EWR data that would enhance safety and submit a report to Congress that details the results of the study, including any recommendations for legislative or regulatory action. To perform the EWR improvement study, NHTSA reviewed current reporting requirements, related legislation, rulemaking, prior internal reviews, changes in relevant pre-investigation processes, and met with industry to evaluate the benefits and burdens of current EWR requirements and identify improvements that will enhance the Agency’s ability to detect emerging safety defects as early, effectively and reliably as possible.

The Agency studied EWR data and assessed potential improvements using seven principles selected by NHTSA to guide the study, to emphasize changes that will: 1) reduce reporting lag; 2) enhance data analytics; 3) provide input to NHTSA’s risk-based pre-investigative process; 4) provide for broad based coverage across and within reporting categories; 5) provide for rigorous review of high-severity incidents resulting in death, injury, collision, or fire; 6) modernize NHTSA data collection to keep pace with motor vehicle

technology and the latest techniques in data analytics; and 7) reduce reporting burden by considering deemphasizing requirements that have provided little effectiveness.

Following this approach, NHTSA has identified 24 potential improvements affecting the scope, scale, formats and methods of EWR data collection related to field reports, claims, or notices alleging death, injury or property damage, production information, and manufacturer communications that we believe will enhance the Agency's ability to identify safety defects quickly and effectively. In addition, NHTSA has identified areas for continued study and improvement to continue to keep pace with changes in motor vehicle technologies and methods for identifying and investigating new issues as they are first observed. We anticipate proposing these improvements through the rulemaking process.³⁰

³⁰ The Agency notes that it may further refine the proposed improvements identified here as part of a rulemaking process, including the process of drafting a proposal or in response to comments received from interested stakeholders. This may include adding, changing, or deciding not to pursue certain proposed improvements addressed here.

Appendix A - Current EWR Reporting Requirements by Data Type and Reporting Category

Data Type	Frequency	Light Vehicles	Medium/ Heavy Vehicles	Emergency Vehicles	Bus	Motorcycle	Trailer	Child Restraint	Tire	Other Original or Replacement Motor Vehicle Equipment & Low Volume Manufacturers
CFR Regulation Reference	n/a	§ 579.21	§ 579.22	§ 579.22	§ 579.22	§ 579.23	§ 579.24	§ 579.25	§ 579.26	§ 579.27
Reporting Thresholds	n/a	5,000	5,000	500	100	5,000	5,000	1	15,000*	
Foreign Campaigns	Within 5 days	✓	✓	✓	✓	✓	✓	✓	✓	✓
Manufacturer Communications	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fatality Claims & Notices	Quarterly	✓	✓	✓	✓	✓	✓	✓	✓	✓
Production Information	Quarterly	✓	✓	✓	✓	✓	✓	✓	✓	
Warranty Counts	Quarterly	✓	✓	✓	✓	✓	✓	✓	✓	
Consumer Complaint Counts	Quarterly	✓	✓	✓	✓	✓	✓	✓		
Field Report Counts	Quarterly	✓	✓	✓	✓	✓	✓	✓		
Property Damage Claim Counts	Quarterly	✓	✓	✓	✓	✓	✓		✓	
Injury Claims & Notices	Quarterly	✓	✓	✓	✓	✓	✓	✓	✓	
Copies of Field Reports	Quarterly	✓	✓	✓	✓	✓	✓	✓		

* The reporting threshold for tires applies to all reportable tires with common SKU, plant where manufactured and year produced for which 15,000 or more tires were imported or produced.

Appendix B – Proposed EWR Reporting Requirements by Data Type and Reporting Category

Data Type	Frequency	Light Vehicles	Medium/ Heavy Vehicles	Emergency Vehicles	Bus	Motorcycle	Trailer	Child Restraint	Tire	Other Original or Replacement Motor Vehicle Equipment & Low Volume Manufacturers
CFR Regulation Reference	n/a	§ 579.21	§ 579.22	§ 579.22	§ 579.22	§ 579.23	§ 579.24	§ 579.25	§ 579.26	§ 579.27
Reporting Thresholds	n/a	5,000	5,000	500	100	5,000	5,000	1	15,000*	
Foreign Campaigns	Within 5 days	✓	✓	✓	✓	✓	✓	✓	✓	✓
Manufacturer Communications	Biweekly	✓	✓	✓	✓	✓	✓	✓	✓	✓
Field Report Meta Data	Monthly	✓	✓	✓	✓	✓	✓	✓		
Fatality Claims & Notices	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	✓
Injury Claims & Notices	Monthly	✓	✓	✓	✓	✓	✓	✓	✓	
Property Damage Claims & Notices	Monthly	✓	✓	✓	✓	✓	✓		✓	
Production Information	Quarterly	✓	✓	✓	✓	✓	✓	✓	✓	
Warranty Counts	Quarterly	✓	✓	✓	✓	✓	✓	✓	✓	
VIN Based Production Data	Annually	✓	✓	✓	✓	✓				

* The reporting threshold for tires applies to all reportable tires with common SKU, plant where manufactured and year produced for which 15,000 or more tires were imported or produced.

Appendix C – Comparison Between Current Requirements and Proposed Improvements

Fatality, Injury & Property Damage Claim Incidents		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	Fatality incidents: All regulated manufacturers. Injury incidents: Most manufacturers (see Appendix A). Property damage incidents: No current requirement.	Fatality incidents: No changes proposed. Injury incidents: No changes proposed. Property damage incidents: Most manufacturers (see Appendix B).
Product scope	Vehicle scope: All vehicles manufactured during a model year covered by the reporting period and the nine model years prior to the earliest model year in the reporting period. Equipment scope: All [equipment] systems manufactured during a production year covered by the reporting period and the four production years prior to the earliest production year in the reporting period.	Vehicles and equipment scope: All vehicles and original equipment manufactured during a model year covered by the reporting period and the fourteen model years prior to the earliest model year in the reporting period. Child Restraints: All child restraint systems manufactured during a production year covered by the reporting period and the nine production years prior to the earliest production year in the reporting period. Tire scope: No changes proposed.
What incidents must be reported	Fatality incidents: Incidents in the United States and foreign countries. Injury incidents: Incidents in the United States. Property damage incidents: No current requirement.	Fatality incidents: No changes proposed. Injury incidents: No changes proposed. Property damage incidents: Incidents in the United States. Add valid vehicle identification number to minimal specificity for vehicles.
Frequency	Quarterly – due within 30 days of the end of the calendar reporting quarter.	Monthly – due within 30 days of the end of the calendar reporting quarter.
Format	Reports of deaths and injuries are to be organized such that the incidents are reported alphabetically by make, and within each make alphabetically by model, and within each model chronologically by model year.	Revised schema with additional data elements, including crash, fire, injury severity code, claim/notice narrative, investigation status, field report ID, and availability of event data; and Copies of the investigative/field report and EDR report for crash, fire, injury or death incident investigated by the manufacturer.
Mechanism	Electronically submitted through a web portal.	No changes proposed.

Field Reports		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	All regulated vehicle, trailer and child restraint manufacturers with the exception of low volume vehicle manufacturers, tire manufacturers, and other equipment manufacturers (see Appendix A).	Add reporting requirements for all manufacturers for field reports related to investigations of crashes, fires, injuries or deaths.
Product scope	Vehicle scope: All vehicles manufactured during a model year covered by the reporting period and the nine model years prior to the earliest model year in the reporting period. Child restraint scope: All child restraint products manufactured during a production year covered by the reporting period and the four production years prior to the earliest production year in the reporting period.	Vehicles and equipment scope: All vehicles and original equipment manufactured during a model year covered by the reporting period and the fourteen model years prior to the earliest model year in the reporting period. Child Restraints: All child restraint systems manufactured during a production year covered by the reporting period and the nine production years prior to the earliest production year in the reporting period. Tire scope: No changes proposed.
What must be reported	Copies of each field report (other than a dealer report or a product evaluation report) meeting the following conditions: <ul style="list-style-type: none"> • Contains any assessment of alleged failure or malfunction, lack of durability or other performance problem involving a motor vehicle, trailer or child restraint; • Is not a document covered by the attorney-client privilege or work product exclusion; • Is prepared by a representative of the manufacturer or by an employee of the manufacturer; and • Must list one or more component code applicable to the vehicle reporting category. 	Field report metadata in a specified reporting schema, including data from dealer reports, but excluding product evaluation reports, that contain any assessment of alleged failure or malfunction, lack of durability or other performance problem involving a motor vehicle, trailer or child restraint. Reports that include information covered by attorney-client privilege or work product exclusion must meet minimum reporting requirements (i.e., provide data that are not covered by the legal claims and provide summaries of the information that are withheld).
Frequency	Quarterly	Monthly
Format	Copies of field reports with no specified format or content.	Field report metadata in specified schema (see Appendix E).
Mechanism	Compressed files uploaded via web portal.	Electronically submitted through a web portal.

Manufacturer Communications		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	All manufacturers of motor vehicles and motor vehicle equipment with respect to all motor vehicles and motor vehicle equipment that have been offered for sale, sold, or leased in the United States by the manufacturer, including any parent corporation, any subsidiary or affiliate of the manufacturer, or any subsidiary or affiliate of any parent corporation, and with respect to all motor vehicles and motor vehicle equipment that have been offered for sale, sold, or leased in a foreign country by the manufacturer, including any parent corporation, any subsidiary or affiliate of the manufacturer, or any subsidiary or affiliate of any parent corporation, and are identical or substantially similar to any motor vehicles or motor vehicle equipment that have been offered for sale, sold, or leased in the United States.	No changes proposed.
Product scope	No limitations.	No changes proposed.
What must be reported	Copies of all notices, bulletins, and other communications (including those transmitted by computer, telefax, or other electronic means and including warranty and policy extension communiqués and product improvement bulletins) sent to more than one manufacturer, distributor, dealer, lessor, lessee, owner, or purchaser, in the United States, regarding: <ol style="list-style-type: none"> 1. Any defect in its vehicles or items of equipment (including any failure or malfunction beyond normal deterioration in use, or any failure of performance, or any flaw or unintended deviation from design specifications), whether or not such defect is safety-related; or 2. Relating to a customer satisfaction campaign, consumer advisory, recall, or other safety activity involving the repair or replacement of motor vehicles or equipment. 	Revise 49 CFR § 579.5 to specify requirements for reporting information about over-the-air (OTA) software updates that are not otherwise documented or described in other manufacturer communications. Requirements for which OTA's will need to be reported is to be determined but may include all updates that: 1) fix software bugs; or 2) change performance of designated body, chassis or powertrain systems (e.g., restraint systems, steering, braking, speed control, powertrain torque management, high-voltage battery monitoring, stability control, ADAS features, or driver monitoring).

Manufacturer Communications		
Reporting Requirements	Current Requirements	Proposed Improvements
Frequency	Monthly. Each copy shall be submitted not later than five working days after the end of the month in which it is issued.	Biweekly. Each copy shall be submitted not later than 15 working days from the date it is issued.
Format	Each copy shall be in readable form. Separate reporting requirements for submissions by email or through the portal.	Revise the reporting schema to add Communication Type to facilitate reviews/queries. Communication Type will include the following categories: campaign-related, OTA-related bulletins/summaries, repair bulletins addressing fault conditions, technical information bulletins/communications, and other).
Mechanism	Reports may be submitted by email or through the Manufacturer Communications web portal.	Require all submissions through the Manufacturer Communications web portal.

Production Information		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	All manufacturers based on class and volume, with some exceptions (i.e., low volume vehicles, commercial tires and equipment are not required to provide production data).	Standard production information: No changes proposed. Supplemental VIN-based production counts: All manufacturers of single-stage, motorized vehicles with VIN's containing 3-character World Manufacturer Identifier (WMI).
Product scope	<p>Vehicles: The manufacturer shall submit information separately with respect to each make, model, and model year of vehicle manufactured during the reporting period and the nine model years prior to the earliest model year in the reporting period, including models no longer in production.</p> <p>Tires: The manufacturer shall submit information separately with respect to each tire line, size, SKU, plant where manufactured, and model year of tire manufactured during the reporting period and the four calendar years prior to the reporting period, including tire lines no longer in production. For each group of tires with the same SKU, plant where manufactured, and year for which the volume produced or imported is less than 15,000, or are deep tread, winter-type snow tires, space-saver or temporary use spare tires, tires with nominal rim diameters of 12 inches or less, or are not passenger car tires, light truck tires, or motorcycle tires, the manufacturer need only report information on incidents involving a death or injury, as specified in paragraph (b) of this section.</p> <p>Child restraints: The manufacturer shall submit information separately with respect to each make, model, and production year of child restraint system manufactured during the reporting period and the four production years prior to the</p>	<p>Vehicles: The manufacturer shall submit information separately with respect to each make, model, and model year of vehicle manufactured during the reporting period and the fourteen model years prior to the earliest model year in the reporting period, including models no longer in production.</p> <p>Tires: Add commercial truck and bus (TBR) tires to the requirements for reporting production, property damage claim, and aggregate data.</p> <p>Child restraints: The manufacturer shall submit information separately with respect to each make, model, and production year of child restraint system manufactured during the reporting period and the nine production years prior to the earliest production year in the reporting period, including models no longer in production.</p> <p>Equipment: The manufacturer shall submit information separately with respect to each make, model, and production year of equipment manufactured during the reporting period and the fourteen production years prior to the earliest production year in the reporting period, including models no longer in production.</p>

Production Information		
Reporting Requirements	Current Requirements	Proposed Improvements
	earliest production year in the reporting period, including models no longer in production.	
What must be reported	The production volumes shall be stated as either the cumulative production of the current model year to the end of the reporting period, or the total model year production for each model year for which production has ceased.	Standard production information: No changes proposed. Supplemental VIN-based production information: Annual updates of production counts by Vehicle Descriptor VIN.
Frequency	Quarterly	Standard production information: No changes proposed. Supplemental VIN based production information: Annually with SSVL submission.
Format	The production volumes are reported in a specified schema for each reporting category. For example, light vehicle production information is reported by manufacturer name, the quarterly reporting period, the make, the model, the model year, the type, the platform, the fuel and/or propulsion system type coded as follows: CNG (compressed natural gas), CIF (compression ignition fuel), EBP (electric battery power), FCP (fuel-cell power), HEV (hybrid electric vehicle), HCP (hydrogen combustion power), PHV (plug-in hybrid), SIF (spark ignition fuel), OTH (Other), and UNK (unknown) and the number of vehicles produced. See Appendix E, Reporting Schema.	Standard production information: Modify reporting schema for buses, medium-heavy vehicles, emergency vehicles, motorcycles and trailers to include Fuel/Propulsion system. Include EBP (electric battery power) and Other as reporting codes for all reporting categories, and None as a code for trailers (no changes necessary for light vehicles). Add electric to the reporting codes available for Brake System in Trailer reporting. Add incomplete vehicle to type for bus, medium-duty, and heavy-duty (BMH). Supplemental VIN based production information: Production data provided by reporting schema that adds Descriptor VIN to the standard schema used for each applicable reporting category.
Mechanism	Electronically submitted through the EWR web portal.	No changes proposed.

Aggregate Data		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	See Production Information.	See Production Information.
Product scope	See Production Information.	See Production Information.
What must be reported	<p>Vehicles: Numbers of property damage claims, consumer complaints, warranty claims, and field reports.</p> <p>Tires: Numbers of property damage claims, consumer complaints and warranty claims.</p> <p>Child restraints: Numbers of warranty claims and field reports.</p>	<p>Vehicles: Consider changing aggregate reporting requirements for property damage claims, consumer complaints and field reports from periodic to upon request. Change the definition of reportable warranty claim to exclude claims related to completion of service campaigns.</p> <p>Tires: Add TBR tires to the requirements for reporting warranty aggregate data (newly manufactured TBR tires only). Revise the definition of reportable warranty claims to include warrantable claims and eliminate goodwill claims.</p> <p>Child restraints: No changes proposed.</p>
Frequency	Quarterly.	No changes proposed.
Format	Aggregate data reporting schema for each reporting category.	See Production Information.
Mechanism	Electronically through the EWR web portal.	No changes proposed.

Foreign Recalls		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	All manufacturers must report to NHTSA any order or decision to conduct a safety recall or other safety campaign in a foreign country	No changes proposed.
Product scope	No limitations on product scope.	No changes proposed.
What must be reported	<p>49 CFR § 579.11 Reporting responsibilities.</p> <p>(a) Determination by a manufacturer. When a manufacturer determines to conduct a safety recall or other safety campaign in a foreign country covering a motor vehicle, item of motor vehicle equipment, or tire that is identical or substantially similar to a vehicle, item of equipment, or tire sold or offered for sale in the United States, the manufacturer shall report the determination to NHTSA. For purposes of this paragraph, this period is determined by reference to the general business practices of the office in which such determination is made, and the office reporting to NHTSA.</p> <p>(b) Determination by a foreign government. When a manufacturer receives written notification that a foreign government has determined that a safety recall or other safety campaign must be conducted in its country with respect to a motor vehicle, item of motor vehicle equipment, or tire that is identical or substantially similar to a vehicle, item of equipment, or tire sold or offered for sale in the United States, the manufacturer shall report the determination to NHTSA. For purposes of this paragraph, this period is determined by reference to the general business practices of the office where the manufacturer receives such notification, the manufacturer's international headquarters office (if involved), and the office reporting to NHTSA.</p>	No changes proposed.

Foreign Recalls		
Reporting Requirements	Current Requirements	Proposed Improvements
	<p>Exemptions from reporting. A manufacturer need not report a foreign safety recall or other safety campaign to NHTSA if:</p> <p>(1) The manufacturer has determined that for the same or substantially similar reasons relating to motor vehicle safety that it is conducting a safety recall or other safety campaign in a foreign country, a safety-related defect or noncompliance with a Federal motor vehicle safety standard exists in identical or substantially similar motor vehicles, motor vehicle equipment, or tires sold or offered for sale in the United States, and has filed a defect or noncompliance information report pursuant to Part 573 of this chapter, provided that the scope of the foreign recall or campaign is not broader than the scope of the recall campaign in the United States;</p> <p>(2) The component or system that gave rise to the foreign recall or other campaign does not perform the same function in any substantially similar vehicles or equipment sold or offered for sale in the United States; or</p> <p>(3) The sole subject of the foreign recall or other campaign is a label affixed to a vehicle, item of equipment, or a tire.</p>	
Frequency	Due within 5 days of the manufacturer or foreign government's determination to conduct a recall in a foreign nation. If all the information required by Section 579.12 is not immediately available within the 5-day period, additional information shall be submitted as it becomes available.	No changes proposed.
Format	Foreign recall reporting schema. Each report must be dated and include the information specified in 49 CFR § 573.6(c)(1), (c)(2), (c)(3), and (c)(5) under Defect and noncompliance information report.	No changes proposed.

Foreign Recalls		
Reporting Requirements	Current Requirements	Proposed Improvements
	<p>Each report must also include:</p> <ul style="list-style-type: none"> • identify each foreign country in which the safety recall or other safety campaign is being conducted; • state whether the foreign action is a safety recall or other safety campaign; • state whether the determination to conduct the recall or campaign was made by the manufacturer or by a foreign government; • describe the manufacturer's program for remedying the defect or noncompliance (if the action is a safety recall); • specify the date of the determination and the date the recall or other campaign was commenced or will commence in each foreign country; and • identify all motor vehicles, equipment, or tires that the manufacturer sold or offered for sale in the United States that are identical or substantially similar to the motor vehicles, equipment, or tires covered by the foreign recall or campaign. <p>If a determination has been made by a foreign government, the report must also include a copy of the determination in the original language and, if the determination is in a language other than English, a copy translated into English.</p>	
Mechanism	Electronically via the Recalls Portal, or by email to fre recalls@dot.gov (confirmation email sent to companies).	Electronically through web portal.

Annual List of Substantially Similar Vehicles (SSVL)		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	Each manufacturer of motor vehicles that sells or offers a motor vehicle for sale in the United States.	No changes proposed.
Product scope	Not applicable.	No changes proposed.
What must be reported	A document that identifies both each model of motor vehicle that the manufacturer sells or plans to sell during the following year in a foreign country that the manufacturer believes is identical or substantially similar to a motor vehicle sold or offered for sale in the United States (or to a motor vehicle that is planned for sale in the United States in the following year), and each such identical or substantially similar motor vehicle sold or offered for sale in the United States.	No changes proposed.
Frequency	Annual submission due no later than November 1st of each year.	No changes proposed.
Format	See SSVL schema.	No changes proposed.
Mechanism	Electronically.	No changes proposed.

Safety Evaluations List (SEL)		
Reporting Requirements	Current Requirements	Proposed Improvements
Who must report	There are no current regulations requiring any manufacturers to submit information about their internal investigations of potential safety defects. All requirements for submitting such information have been through consent orders and have been limited to the length of the respective consent order.	TBD
Product scope	No current requirements.	TBD
What must be reported	No current requirements.	TBD
Frequency	No current requirements.	TBD
Format	No current requirements.	TBD (SEL reporting schema)
Mechanism	No current requirements.	TBD

Appendix D – Sample Safety Evaluations List Reporting Template

How is the problem defined?					What is the possible effect of the problem?		When did <Company> learn about the problem?	Where did <Company> learn about the problem?	Who is affected?				Why did this problem happen?	What is being done?				Date Opened	Date Closed	Additional documentation
(a) Index# or Identifi- cation#	(b) Affected MY(s)	(c) Affected Model(s)	(d) Issue Name and Potential Failure Mode	(e) Is this related to any known NHTSA related activity such as EWR record or NHTSA investigation? (Pulldown)	(f) Primary Failure Effect Under Consideration	(g) Possibly Associable Primary Hazard (Pulldown)	(h) Issue First Reported Date	(i) First Report Source (employee, consumer, NHTSA, etc.) (Pulldown)	(j) Alleged # of incidents or reports	(k) Alleged # of injuries	(l) Alleged # of fatalities	(m) Estimated Population of Potential Units Affected	(n) Root Cause	(o) Next Steps	(p) Are All Affected Vehicles Contained? (Y/N /unk)	(q) Disposition (Pulldown)	(r) Rationale if closed without a safety recall (Best answer first)	(s) Date	(t) Date	(u) Supplemental materials submitted? (Yes/No)